SEQUENCE LISTING

<110> El Tayar, Nabil
Campbell, Robert K
Kelton, Christie A
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<120> Novel Glycoproteins and Methods of Use Thereof

<130> 20993-003

<140> 09/927,876
<141> 2001-08-10

<150> 60/225,035
<151> 2000-08-11

<150> 60/202,724
<151> 2000-05-08

<160> 107

<170> PatentIn Ver. 2.1

<210> 1
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<212> DNA
<213> Homo sapiens

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ctcggtgcct ccagtgggaa cctgcgcacc tttgtgggct gtgccgtgag ggagtttact 180
ttcctggcca agaagccagg ctgcaggggc cttcggatca ccacggatgc ctgctggggt 240
cgctgtgaga cctgggagaa acccattctg gaaccccccc atattgaagc ccatcatcga 300
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<210> 2
<211> 129
<212> PRT
<213> Homo sapiens

<400> 2
Met Lys Leu Ala Phe Leu Leu Leu Gly Pro Met Ala Leu Leu Leu Leu
1 5 10 15

Ala Gly Tyr Gly Cys Leu Gly Ala Ser Ser Gly Asn Leu Arg Thr Phe
20 25 30

Val Gly Cys Ala Val Arg Glu Phe Thr Phe Leu Ala Lys Lys Pro Gly
35 40 45

Cys Arg Gly Leu Arg Ile Thr Thr Asp Ala Cys Trp Gly Arg Cys Glu
50 55 60

Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala His His
65 70 75 80

```
Arg Val Cys Thr Tyr Asn Glu Thr Lys Gln Val Thr Val Lys Leu Pro
                85                  90                  95

Asn Cys Ala Pro Gly Val Asp Pro Phe Tyr Thr Tyr Pro Val Ala Ile
            100                 105                 110

Arg Cys Asp Cys Gly Ala Cys Ser Thr Ala Thr Thr Glu Cys Glu Thr
        115                 120                 125

Ile
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<210> 3
<211> 381
<212> DNA
<213> Xenopus sp.

<400> 3
atgaacaaga agagggtgat gttccctgtc ctgcagcttc tggttttagc cctgtgtctc 60
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ttcacattct tagcaaagaa acctggctgc agaggtctgc gtgtgactac tgatgcctgc 180
tgggggcgct gtgagacctg tgagaagcca tccctagatc ctccgtacat agaagcccac 240
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ccagacattg acccattctt tacctaccca gttgccatta gatgtgactg tgacatgtgg 360
tccacttcta ctacagaatg t 381

<210> 4
<211> 127
<212> PRT
<213> Xenopus sp.

<400> 4

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Met Asn Lys Lys Arg Val Lys Phe Pro Val Leu Gln Leu Leu Val Leu
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Ala Leu Cys Leu Ser Thr Ala Ala Gly Ser Asn Ile Ser Leu Arg Thr
            20                  25                  30

Phe Ile Gly Cys Ala Val Arg Glu Phe Thr Phe Leu Ala Lys Lys Pro
        35                  40                  45

Gly Cys Arg Gly Leu Arg Val Thr Thr Asp Ala Cys Trp Gly Arg Cys
    50                  55                  60

Glu Thr Cys Glu Lys Pro Ser Leu Asp Pro Pro Tyr Ile Glu Ala His
65                  70                  75                  80

His Arg Val Cys Thr Tyr Asn Glu Thr Lys Leu Val Thr Val Ile Leu
                85                  90                  95

Leu Pro Asn Cys Ser Pro Asp Ile Asp Pro Phe Phe Thr Tyr Pro Val
            100                 105                 110

Ala Ile Arg Cys Asp Cys Met Trp Ser Thr Ser Thr Thr Glu Cys
        115                 120                 125
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<210> 5
<211> 5

<212> PRT
<213> Homo sapiens

<400> 5
Trp Glu Lys Pro Ile
1 5

<210> 6
<211> 141
<212> PRT
<213> Homo sapiens

<400> 6
Met Glu Met Leu Gln Gly Leu Leu Leu Leu Leu Leu Ser Met Gly
1 5 10 15

Gly Ala Trp Ala Ser Arg Glu Pro Leu Arg Pro Trp Cys His Pro Ile
20 25 30

Asn Ala Ile Leu Ala Val Glu Lys Glu Gly Cys Pro Val Cys Ile Thr
35 40 45

Val Asn Thr Thr Ile Cys Ala Gly Tyr Cys Pro Thr Met Met Arg Val
50 55 60

Leu Gln Ala Val Leu Pro Pro Leu Pro Gln Val Val Cys Thr Tyr Arg
65 70 75 80

Asp Val Arg Phe Glu Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val
85 90 95

Asp Pro Val Val Ser Phe Pro Val Ala Leu Ser Cys Arg Cys Gly Pro
100 105 110

Cys Arg Arg Ser Thr Ser Asp Cys Gly Gly Pro Lys Asp His Pro Leu
115 120 125

Thr Cys Asp His Pro Gln Leu Ser Gly Leu Leu Phe Leu
130 135 140

<210> 7
<211> 129
<212> PRT
<213> Homo sapiens

<400> 7
Met Lys Thr Leu Gln Phe Phe Phe Leu Phe Cys Cys Trp Lys Ala Ile
1 5 10 15

Cys Cys Asn Ser Cys Glu Leu Thr Asn Ile Thr Ile Ala Ile Glu Lys
20 25 30

Glu Glu Cys Arg Phe Cys Ile Ser Ile Asn Thr Thr Trp Cys Ala Gly
35 40 45

Tyr Cys Tyr Thr Arg Asp Leu Val Tyr Lys Asp Pro Ala Arg Pro Lys
50 55 60

Ile Gln Lys Thr Cys Thr Phe Lys Glu Leu Val Tyr Glu Thr Val Arg

```
 65                  70                  75                  80

Val Pro Gly Cys Ala His His Ala Asp Ser Leu Tyr Thr Tyr Pro Val
                85                  90                  95

Ala Thr Gln Cys His Cys Gly Lys Cys Asp Ser Asp Ser Thr Asp Cys
            100                 105                 110

Thr Val Arg Gly Leu Gly Pro Ser Tyr Cys Ser Phe Gly Glu Met Lys
        115                 120                 125

Glu
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<210> 8
<211> 165
<212> PRT
<213> Homo sapiens

<400> 8

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Met Glu Met Phe Gln Gly Leu Leu Leu Leu Leu Leu Ser Met Gly
  1               5                  10                  15

Gly Thr Trp Ala Ser Lys Glu Pro Leu Arg Pro Arg Cys Arg Pro Ile
            20                  25                  30

Asn Ala Thr Leu Ala Val Glu Lys Glu Gly Cys Pro Val Cys Ile Thr
        35                  40                  45

Val Asn Thr Thr Ile Cys Ala Gly Tyr Cys Pro Thr Met Thr Arg Val
    50                  55                  60

Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val Cys Asn Tyr Arg
65                  70                  75                  80

Asp Val Arg Phe Glu Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val
                85                  90                  95

Asn Pro Val Val Ser Tyr Ala Val Ala Leu Ser Cys Gln Cys Ala Leu
            100                 105                 110

Cys Arg Arg Ser Thr Thr Asp Cys Gly Gly Pro Lys Asp His Pro Leu
        115                 120                 125

Thr Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser Ser Ser Lys Ala Pro
    130                 135                 140

Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly Pro Ser Asp Thr
145                 150                 155                 160

Pro Ile Leu Pro Gln
                165
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<210> 9
<211> 138
<212> PRT
<213> Homo sapiens

<400> 9

```
Met Thr Ala Leu Phe Leu Met Ser Met Leu Phe Gly Leu Ala Cys Gly
 1               5                  10                  15

Gln Ala Met Ser Phe Cys Ile Pro Thr Glu Tyr Thr Met His Ile Glu
            20                  25                  30

Arg Arg Glu Cys Ala Tyr Cys Leu Thr Ile Asn Thr Thr Ile Cys Ala
        35                  40                  45

Gly Tyr Cys Met Thr Arg Asp Ile Asn Gly Lys Leu Phe Leu Pro Lys
    50                  55                  60

Tyr Ala Leu Ser Gln Asp Val Cys Thr Tyr Arg Asp Phe Ile Tyr Arg
65                  70                  75                  80

Thr Val Glu Ile Pro Gly Cys Pro Leu His Val Ala Pro Tyr Phe Ser
                85                  90                  95

Tyr Pro Val Ala Leu Ser Cys Lys Cys Gly Lys Cys Asn Thr Asp Tyr
            100                 105                 110

Ser Asp Cys Ile His Glu Ala Ile Lys Thr Asn Tyr Cys Thr Lys Pro
        115                 120                 125

Gln Lys Ser Tyr Leu Val Gly Phe Ser Val
    130                 135
```

<210> 10
<211> 23
<212> PRT
<213> Homo sapiens

<400> 10

```
Met Lys Leu Ala Phe Leu Leu Leu Gly Pro Met Ala Leu Leu Leu Leu
 1               5                  10                  15

Ala Gly Tyr Gly Cys Leu Gly
            20
```

<210> 11
<211> 20
<212> PRT
<213> Homo sapiens

<400> 11

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Met Glu Met Phe Gln Gly Leu Leu Leu Leu Leu Leu Leu Ser Met Gly
 1               5                  10                  15

Gly Thr Trp Ala
            20
```

<210> 12
<211> 19
<212> PRT
<213> Homo sapiens

<400> 12

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Glu Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala His
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```
  1               5                  10                  15

His Arg Val
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<210> 13
<211> 166
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 13

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Met Glu Met Phe Gln Gly Leu Leu Leu Leu Leu Leu Ser Met Gly
  1               5                  10                  15

Gly Thr Trp Ala Ser Lys Glu Pro Leu Arg Pro Arg Cys Arg Pro Ile
             20                  25                  30

Asn Ala Thr Leu Ala Val Glu Lys Glu Gly Cys Pro Val Cys Ile Thr
         35                  40                  45

Val Asn Thr Thr Ile Cys Ala Gly Tyr Cys Glu Thr Trp Glu Lys Pro
     50                  55                  60

Ile Leu Glu Pro Pro Tyr Ile Glu Ala His His Arg Val Cys Asn Tyr
 65                  70                  75                  80

Arg Asp Val Arg Phe Glu Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly
                 85                  90                  95

Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu Ser Cys Gln Cys Ala
            100                 105                 110

Leu Cys Arg Arg Ser Thr Thr Asp Cys Gly Gly Pro Lys Asp His Pro
        115                 120                 125

Leu Thr Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser Ser Ser Lys Ala
    130                 135                 140

Pro Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly Pro Ser Asp
145                 150                 155                 160

Thr Pro Ile Leu Pro Gln
                165
```

<210> 14
<211> 143
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 14

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Met Lys Leu Ala Phe Leu Leu Leu Gly Pro Met Ala Leu Leu Leu Leu
  1               5                  10                  15
```

```
Ala Gly Tyr Gly Cys Leu Gly Ala Ser Ser Gly Asn Leu Arg Thr Phe
             20                  25                  30

Val Gly Cys Ala Val Arg Glu Phe Thr Phe Leu Ala Lys Lys Pro Gly
         35                  40                  45

Cys Arg Gly Leu Arg Ile Thr Thr Asp Ala Cys Trp Gly Arg Cys Glu
     50                  55                  60

Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala His His
 65                  70                  75                  80

Arg Val Cys Thr Tyr Asn Glu Thr Lys Gln Val Thr Val Lys Leu Pro
                 85                  90                  95

Asn Cys Ala Pro Gly Val Asp Pro Phe Tyr Thr Tyr Pro Val Ala Ile
            100                 105                 110

Arg Cys Asp Cys Gly Ala Cys Ser Thr Ala Thr Thr Glu Cys Thr Val
        115                 120                 125

Arg Gly Leu Gly Pro Ser Tyr Cys Ser Phe Gly Glu Met Lys Glu
    130                 135                 140
```

<210> 15
<211> 21
<212> PRT
<213> Homo sapiens

<400> 15

```
Cys Glu Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala
  1               5                  10                  15

His His Arg Val Cys
            20
```

<210> 16
<211> 19
<212> PRT
<213> Homo sapiens

<400> 16

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Glu Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala His
  1               5                  10                  15

His Arg Val
```

<210> 17
<211> 754
<212> DNA
<213> Homo sapiens

<400> 17

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agtgatgcct atggcgtccc ctcaaaccct ggtcctctat ctgctggtcc tggcagtcac 120
tgaagcctgg ggccaggagg cagtcatccc aggctgccac ttgcaccct tcaatgtgac 180
agtgcgaagt gaccgccaag gcacctgcca gggctcccac gtggcacagg cctgtgtggg 240
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```
ccactgtgag tccagcgcct tcccttctcg gtactctgtg ctggtggcca gtggttaccg 300
acacaacatc acctccgtct ctcagtgctg caccatcagt ggcctgaaga aggtcaaagt 360
acagctgcag tgtgtgggga gccggaggga ggagctcgag atcttaacgg ccagggcctg 420
ccagtgtgac atgtgtcgcc tctctcgcta ctagcccatc ctctcccctc cttcctcccc 480
tgggtcacag ggcttgacat tctggtgggg gaaacctgtg ttcaagattc aaaaactgga 540
aggagctcca gccctgatgg ttacttgcta tggaattttt ttaaataagg ggagggttgt 600
tccagctttg atcctttgta agattttgtg actgtcacct gagaagaggg gagtttctgc 660
ttcttccctg cctctgcctg gcccttctaa accaatcttt catcatttta cttccctctt 720
tgcccttacc cctaaataaa gcaagcagtt cttg                           754
```

<210> 18
<211> 129
<212> PRT
<213> Homo sapiens

<400> 18

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Met Pro Met Ala Ser Pro Gln Thr Leu Val Leu Tyr Leu Leu Val Leu
  1               5                  10                  15

Ala Val Thr Glu Ala Trp Gly Gln Glu Ala Val Ile Pro Gly Cys His
             20                  25                  30

Leu His Pro Phe Asn Val Thr Val Arg Ser Asp Arg Gln Gly Thr Cys
         35                  40                  45

Gln Gly Ser His Val Ala Gln Ala Cys Val Gly His Cys Glu Ser Ser
     50                  55                  60

Ala Phe Pro Ser Arg Tyr Ser Val Leu Val Ala Ser Gly Tyr Arg His
 65                  70                  75                  80

Asn Ile Thr Ser Val Ser Gln Cys Cys Thr Ile Ser Gly Leu Lys Lys
                 85                  90                  95

Val Lys Val Gln Leu Gln Cys Val Gly Ser Arg Arg Glu Glu Leu Glu
            100                 105                 110

Ile Leu Thr Ala Arg Ala Cys Gln Cys Asp Met Cys Arg Leu Ser Arg
        115                 120                 125

Tyr
```

<210> 19
<211> 596
<212> DNA
<213> Mus musculus

<400> 19

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acgagtcttg ctcctttgcc tgctgggcct ggcagtcact gaagggcata gcccagagac 120
agccatccca ggctgccact tgcacccctt caatgtgacg gtgcgcagtg atcgcctcgg 180
cacttgccag ggctcccacg tggcacaggc ctgtgtagga cactgtgagt ctagtgcttt 240
cccttcccgg tactctgtgc tggtggccag tggctatcgg cacaacatca cctcttcctc 300
ccagtgctgc accatcagca gcctcagaaa ggtgagggtg tggctgcagt gcgtggggaa 360
ccagcgtggg gagcttgaga tctttactgc aagggcctgc cagtgtgata tgtgccgttt 420
ctcccgctac tagtccccga agctcaggct ccggtcctgc cactgacatg tcatgggtat 480
ctcaaactcg gggctctgac cctctttatc gtctgtgaag atgaggttgg ccctctcagc 540
agtctccttg ctacattctc cttcgctcct gtcctcaata aagcaagcaa tgcttg     596
```

<210> 20
<211> 128
<212> PRT
<213> Mus musculus

<400> 20
Met Pro Met Ala Pro Arg Val Leu Leu Leu Cys Leu Leu Gly Leu Ala
1 5 10 15

Val Thr Glu Gly His Ser Pro Glu Thr Ala Ile Pro Gly Cys His Leu
20 25 30

His Pro Phe Asn Val Thr Val Arg Ser Asp Arg Leu Gly Thr Cys Gln
35 40 45

Gly Ser His Val Ala Gln Ala Cys Val Gly His Cys Glu Ser Ser Ala
50 55 60

Phe Pro Ser Arg Tyr Ser Val Leu Val Ala Ser Gly Tyr Arg His Asn
65 70 75 80

Ile Thr Ser Ser Ser Gln Cys Cys Thr Ile Ser Ser Leu Arg Lys Val
85 90 95

Arg Val Trp Leu Gln Cys Val Gly Asn Gln Arg Gly Glu Leu Glu Ile
100 105 110

Phe Thr Ala Arg Ile Cys Gln Cys Asp Met Cys Arg Phe Ser Arg Tyr
115 120 125

<210> 21
<211> 844
<212> DNA
<213> Rattus norvegicus

<400> 21
gggggaggga ggggccgaag tggccagggt tggtatgatc cccagccatg agagacatcc 60
caggggacag tgcatagaag gatggcatac acacaagtgg ctgctcattg ccttccagag 120
tagctgaggc aaggaagcaa gcaccccaca cattcccacc caaggcagag aggatcaaca 180
gtgccaccca ggcacacctc acagtcggaa gacccagaag cctggcttgc tgggggagag 240
acacaactgc aaagacttcc cttcccaccc actccttttc agatgcccat ggcacctcga 300
gtcttgctct tctgcctgct gggtctggca gtcactgaag ggcatggcct ggaggcagcc 360
gtcccaatcc caggctgcca cttgcacccc tttaacgtga cagtgcgaag tgatcgccat 420
ggcacctgcc agggctccca tgtggcacag gcgtgtgtag gacactgtga gtctagtgct 480
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tctcagtgct gtaccatcag cagccttaaa aaggtgaggg tgtggctgca ctgcgtgggg 600
aaccagcgtg gggagctcga gatcttcacg gctagggcct gccagtgtga tatgtgccgt 660
ctctcccgct actaggcccc gaagctcagg cctccagtcc tgccactgat aggtcgtgct 720
tctctcagac cagccctctt tggagtctga agatggggct tcgcctctgt ttacctggcc 780
tcctcagcag tctcactgct gctttctcct tcacccctgt cctcaataaa gcaggcagtg 840
cttg 844

<210> 22
<211> 129

<212> PRT
<213> Rattus norvegicus

<400> 22

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Met Pro Met Ala Pro Arg Val Leu Leu Phe Cys Leu Leu Gly Leu Ala
  1               5                  10                  15

Val Thr Glu Gly His Gly Leu Glu Ala Ala Val Pro Ile Pro Gly Cys
            20                  25                  30

His Leu His Pro Phe Asn Val Thr Val Arg Ser Asp Arg His Gly Thr
        35                  40                  45

Cys Gln Gly Ser His Val Ala Gln Ala Cys Gly His Cys Glu Ser Ser
    50                  55                  60

Ala Phe Pro Ser Arg Tyr Ser Val Leu Val Ala Ser Gly Tyr Arg His
65                  70                  75                  80

Asn Ile Thr Ser Val Ser Gln Cys Cys Thr Ile Ser Ser Leu Lys Lys
                85                  90                  95

Val Arg Val Trp Leu His Cys Val Gly Asn Gln Arg Gly Glu Leu Glu
            100                 105                 110

Ile Phe Thr Ala Arg Ala Cys Gln Cys Asp Met Cys Arg Leu Ser Arg
        115                 120                 125

Tyr
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<210> 23
<211> 1224
<212> DNA
<213> Homo sapiens

<400> 23

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agatggcgaa gaaaattcca gggaagggag aatcactgca cagagggctg acacacaggt 60
cctttccaga gacagctgct cacactcaca cccatacaca cacacacaca cacacaaagg 120
cagatacagg gaaaaggcag caccattcag gcacacctca cctgtcagac cagccagccc 180
tggctcactc acctggaatg cagtatttaa agaactcgcc atcccacctg cacacccacg 240
tagagacatc tccccactgt gtttcagatg cctatggcgt cccctcaaac cctggtcctc 300
tatctgctgg tcctggcagt cactgaagcc tggggccagg aggcagtcat cccaggctgc 360
cacttgcacc gtgagtacct ctgggaccgg agggctagga gcagtggagg ttctgggtgg 420
gagcaaagag ctgacagagt ggacggtggg gcaggcagca ccctaaaggg ccccacactg 480
aggcacaggc aacgggagct ggggcgaggc aaaccttggc agaggcgccg tctactgctt 540
gcctatctcc ttctagcctt caatgtgaca gtgcgaagtg accgccaagg cacctgccag 600
ggctcccacg tggcacaggc ctgtgtgggc cactgtgagt ccagcgcctt cccttctcgg 660
tactctgtgc tggtggccag tggttaccga cacaacatca cctccgtctc tcagtgctgc 720
accatcagtg gcctgaagaa ggtgaggagg gcccgggccc ggtggatgga cgctggggtc 780
gcgggaagac cagagagatg gagatcctag acagccctga gaaaggggac tgcagcacgg 840
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tcgagatctt cacggccagg gcctgccagt gtgacatgtg tcgcctctct cgctactagc 960
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ctgtgttcaa gattcaaaaa ctggaaggag ctccagccct gatggttact tgctatggaa 1080
ttttttaaaa taaggggagg gttgttccag ctttgatcct ttgtaagatt ttgtgactgt 1140
cacctgagaa gaggggagtt tctgcttctt ccctgcctct gcctggccct tctaaaccaa 1200
tctttcatca ttttacttcc ctct                                       1224
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<210> 24
<211> 6
<212> PRT
<213> Homo sapiens

<400> 24
Leu His Pro Phe Asn Val
1 5

<210> 25
<211> 6
<212> PRT
<213> Homo sapiens

<400> 25
Leu Lys Lys Val Lys Val
1 5

<210> 26
<211> 116
<212> PRT
<213> Homo sapiens

<400> 26
Met Asp Tyr Tyr Arg Lys Tyr Ala Ala Ile Phe Leu Val Thr Leu Ser
1 5 10 15

Val Phe Leu His Val Leu His Ser Ala Pro Asp Val Gln Asp Cys Pro
20 25 30

Glu Cys Thr Leu Gln Glu Asn Pro Phe Phe Ser Gln Pro Gly Ala Pro
35 40 45

Ile Leu Gln Cys Met Gly Cys Cys Phe Ser Arg Ala Tyr Pro Thr Pro
50 55 60

Leu Arg Ser Lys Lys Thr Met Leu Val Gln Lys Asn Val Thr Ser Glu
65 70 75 80

Ser Thr Cys Cys Val Ala Lys Ser Tyr Asn Arg Val Thr Val Met Gly
85 90 95

Gly Phe Lys Val Glu Asn His Thr Ala Cys His Cys Ser Thr Cys Tyr
100 105 110

Tyr His Lys Ser
115

<210> 27
<211> 129
<212> PRT
<213> Homo sapiens

<400> 27
Met Lys Thr Leu Gln Phe Phe Phe Leu Phe Cys Cys Trp Lys Ala Ile
1 5 10 15

Cys Cys Asn Ser Cys Glu Leu Thr Asn Ile Thr Ile Ala Ile Glu Lys

```
            20                  25                  30

Glu Glu Cys Arg Phe Cys Ile Ser Ile Asn Thr Thr Trp Cys Ala Gly
         35                  40                  45

Tyr Cys Tyr Thr Arg Asp Leu Val Tyr Lys Asp Pro Ala Arg Pro Lys
     50                  55                  60

Ile Gln Lys Thr Cys Thr Phe Lys Glu Leu Val Tyr Glu Thr Val Arg
 65                  70                  75                  80

Val Pro Gly Cys Ala His His Ala Asp Ser Leu Tyr Thr Tyr Pro Val
                85                  90                  95

Ala Thr Gln Cys His Cys Gly Lys Cys Asp Ser Asp Ser Thr Asp Cys
            100                 105                 110

Thr Val Arg Gly Leu Gly Pro Ser Tyr Cys Ser Phe Gly Glu Met Lys
        115                 120                 125

Glu
```

<210> 28
<211> 23
<212> PRT
<213> Homo sapiens

<400> 28

```
Met Pro Met Ala Ser Pro Gln Thr Leu Val Leu Tyr Leu Leu Val Leu
  1               5                  10                  15

Ala Val Thr Glu Ala Trp Gly
            20
```

<210> 29
<211> 22
<212> PRT
<213> Mus musculus

<400> 29

```
Met Pro Met Ala Pro Arg Val Leu Leu Leu Cys Leu Leu Gly Leu Ala
  1               5                  10                  15

Val Thr Glu Gly His Ser
            20
```

<210> 30
<211> 22
<212> PRT
<213> Rattus norvegicus

<400> 30

```
Met Pro Met Ala Pro Arg Val Leu Leu Phe Cys Leu Leu Gly Leu Ala
  1               5                  10                  15

Val Thr Glu Gly His Gly
            20
```

<210> 31
<211> 107
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Consensus Sequence

<400> 31
Cys Arg Pro Gly Cys Arg Pro Thr Asn Tyr Thr Ile Ser Val Glu Lys
1 5 10 15

Glu Glu Cys Pro Val Cys Ile Thr Ile Asn Thr Thr Ile Cys Ala Gly
20 25 30

Tyr Cys Tyr Thr Arg Asp Pro Val Tyr Lys Ser Pro Leu Leu Pro Leu
35 40 45

Pro Gln Arg Val Cys Thr Tyr Gly Glu Trp Ser Tyr Glu Thr Ala Arg
50 55 60

Leu Pro Gly Cys Pro Pro Gly Val Asp Pro His Phe Thr Tyr Pro Val
65 70 75 80

Ala Leu Ser Cys Tyr Cys Gly Lys Cys Asn Thr Asp Thr Thr Asp Cys
85 90 95

Thr Val Leu Ser Leu Arg Pro Asp Ser Cys Ser
100 105

<210> 32
<211> 99
<212> PRT
<213> Homo sapiens

<400> 32
Thr Phe Val Gly Cys Ala Val Arg Glu Phe Thr Phe Leu Ala Lys Lys
1 5 10 15

Pro Gly Cys Arg Gly Leu Arg Ile Thr Thr Asp Ala Cys Trp Gly Arg
20 25 30

Cys Glu Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala
35 40 45

His His Arg Val Cys Thr Tyr Asn Glu Thr Lys Gln Val Thr Val Lys
50 55 60

Leu Pro Asn Cys Ala Pro Gly Val Asp Pro Phe Tyr Thr Tyr Pro Val
65 70 75 80

Ala Ile Arg Cys Asp Cys Gly Ala Cys Ser Thr Ala Thr Thr Glu Cys
85 90 95

Glu Thr Ile

<210> 33
<211> 107
<212> PRT
<213> Homo sapiens

<400> 33
Leu Arg Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu Ala Val Glu Lys
1 5 10 15

Glu Gly Cys Pro Val Cys Ile Thr Val Asn Thr Thr Ile Cys Ala Gly
20 25 30

Tyr Cys Pro Thr Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu
35 40 45

Pro Gln Val Val Cys Asn Tyr Arg Asp Val Arg Phe Glu Ser Ile Arg
50 55 60

Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val
65 70 75 80

Ala Leu Ser Cys Gln Cys Ala Leu Cys Arg Arg Ser Thr Thr Asp Cys
85 90 95

Gly Gly Pro Lys Asp His Pro Leu Thr Cys Asp
100 105

<210> 34
<211> 107
<212> PRT
<213> Anguilla anguilla

<400> 34
Leu Leu Leu Pro Cys Glu Pro Ile Asn Glu Thr Ile Ser Val Glu Lys
1 5 10 15

Asp Gly Cys Pro Lys Cys Leu Val Phe Gln Thr Ser Ile Cys Ser Gly
20 25 30

His Cys Ile Thr Lys Asp Pro Ser Tyr Lys Ser Pro Leu Ser Thr Val
35 40 45

Tyr Gln Arg Val Cys Thr Tyr Arg Asp Val Arg Tyr Glu Thr Val Arg
50 55 60

Leu Pro Asp Cys Arg Pro Gly Val Asp Pro His Val Thr Phe Pro Val
65 70 75 80

Ala Leu Ser Cys Asp Cys Asn Leu Cys Thr Met Asp Thr Ser Asp Cys
85 90 95

Ala Ile Gln Ser Leu Arg Pro Asp Phe Cys Met
100 105

<210> 35
<211> 107
<212> PRT
<213> Fundulus heteroclitus

<400> 35
Gln Leu Pro Arg Cys Gln Leu Leu Asn Gln Thr Ile Ser Leu Glu Lys
1 5 10 15

Arg Gly Cys Ser Gly Cys His Arg Val Glu Thr Thr Ile Cys Ser Gly
20 25 30

Tyr Cys Ala Thr Lys Asp Pro Asn Tyr Lys Thr Ser Tyr Asn Lys Ala
35 40 45

Ile Gln His Val Cys Thr Tyr Gly Asp Leu Tyr Tyr Lys Thr Phe Glu
50 55 60

Phe Pro Glu Cys Val Pro Gly Val Asp Pro Val Val Thr Tyr Pro Val
65 70 75 80

Ala Leu Ser Cys Arg Cys Gly Gly Cys Ala Met Ala Thr Ser Asp Cys
85 90 95

Thr Phe Glu Ser Leu Gln Pro Asp Phe Cys Met
100 105

<210> 36
<211> 109
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Consensus Sequence

<400> 36
Ala Thr Lys Lys Arg Pro Lys Cys Arg Pro Thr Asn Val Thr Ile Tyr
1 5 10 15

Val Glu Lys Glu Gly Cys Thr Ser Cys Lys Thr Val Asn Thr Thr Ile
20 25 30

Cys Ala Gly Tyr Cys Tyr Thr Lys Asp Pro Val Tyr Lys Asp Gly Arg
35 40 45

Arg Leu Leu Ile Gln Cys Val Cys Cys Tyr Pro Asp Val Thr Tyr Glu
50 55 60

Thr Lys Val Leu Pro Gly Cys Pro Asn Gly Val Asp Pro Thr Lys Thr
65 70 75 80

Tyr Pro Val Ala Leu Ser Cys His Cys Gly Lys Cys Asn Thr Asp Asn
85 90 95

Thr Asp Cys Thr Arg Glu Ser Leu His Pro Asp Ser Cys
100 105

<210> 37
<211> 102
<212> PRT
<213> Homo sapiens

<400> 37
Asn Leu Arg Thr Phe Val Gly Cys Ala Val Arg Glu Phe Thr Phe Leu
1 5 10 15

Ala Lys Lys Pro Gly Cys Arg Gly Leu Arg Ile Thr Thr Asp Ala Cys
20 25 30

Trp Gly Arg Cys Glu Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr
35 40 45

Ile Glu Ala His His Arg Val Cys Thr Tyr Asn Glu Thr Lys Gln Val
50 55 60

Thr Val Lys Leu Pro Asn Cys Ala Pro Gly Val Asp Pro Phe Tyr Thr
65 70 75 80

Tyr Pro Val Ala Ile Arg Cys Asp Cys Gly Ala Cys Ser Thr Ala Thr
85 90 95

Thr Glu Cys Glu Thr Ile
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<210> 38
<211> 109
<212> PRT
<213> Homo sapiens

<400> 38
Lys Glu Pro Leu Arg Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu Ala
1 5 10 15

Val Glu Lys Glu Gly Cys Pro Val Cys Ile Thr Val Asn Thr Thr Ile
20 25 30

Cys Ala Gly Tyr Cys Pro Thr Met Thr Arg Val Leu Gln Gly Val Leu
35 40 45

Pro Ala Leu Pro Gln Val Val Cys Asn Tyr Arg Asp Val Arg Phe Glu
50 55 60

Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser
65 70 75 80

Tyr Ala Val Ala Leu Ser Cys Gln Cys Ala Leu Cys Arg Arg Ser Thr
85 90 95

Thr Asp Cys Gly Gly Pro Lys Asp His Pro Leu Thr Cys
100 105

<210> 39
<211> 104
<212> PRT
<213> Homo sapiens

<400> 39
Asn Ser Cys Glu Leu Thr Asn Ile Thr Ile Ala Ile Glu Lys Glu Glu
1 5 10 15

Cys Arg Phe Cys Ile Ser Ile Asn Thr Ala Trp Cys Ala Gly Tyr Cys

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Tyr Thr Arg Asp Leu Val Tyr Lys Asp Pro Ala Arg Pro Lys Ile Gln
          35                  40                  45

Lys Thr Cys Thr Phe Lys Glu Leu Val Tyr Glu Thr Val Arg Val Pro
     50                  55                  60

Gly Cys Ala His His Ala Asp Ser Leu Tyr Thr Tyr Pro Val Ala Thr
 65                  70                  75                  80

Gln Cys His Cys Gly Lys Cys Asp Ser Asp Ser Thr Asp Cys Thr Val
                 85                  90                  95

Arg Gly Leu Gly Pro Ser Tyr Cys
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<210> 40
<211> 109
<212> PRT
<213> Homo sapiens

<400> 40
Arg Glu Pro Leu Arg Pro Trp Cys His Pro Ile Asn Ala Ile Leu Ala
  1               5                  10                  15

Val Glu Lys Glu Gly Cys Pro Val Cys Ile Thr Val Asn Thr Thr Ile
            20                  25                  30

Cys Ala Gly Tyr Cys Pro Thr Met Met Arg Val Leu Gln Ala Val Leu
          35                  40                  45

Pro Pro Leu Pro Gln Val Val Cys Thr Tyr Arg Asp Val Arg Phe Glu
     50                  55                  60

Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val Asp Pro Val Val Ser
 65                  70                  75                  80

Phe Pro Val Ala Leu Ser Cys Arg Cys Gly Pro Cys Arg Arg Ser Thr
                 85                  90                  95

Ser Asp Cys Gly Gly Pro Lys Asp His Pro Leu Thr Cys
            100                 105


<210> 41
<211> 109
<212> PRT
<213> Ctenolepisma lineata

<400> 41
Gly Gly Ser Leu Leu Leu Pro Cys Glu Pro Ile Asn Glu Thr Ile Ser
  1               5                  10                  15

Val Glu Lys Asp Gly Cys Pro Lys Cys Leu Val Phe Gln Thr Ser Ile
            20                  25                  30

Cys Ser Gly His Cys Ile Thr Lys Asp Pro Ser Tyr Lys Ser Pro Leu
          35                  40                  45
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Ser Thr Val Tyr Gln Arg Val Cys Thr Tyr Arg Asp Val Arg Tyr Glu
     50                  55                  60

Thr Val Arg Leu Pro Asp Cys Arg Pro Gly Val Asp Pro His Val Thr
 65                  70                  75                  80

Phe Pro Val Ala Leu Ser Cys Asp Cys Asn Leu Cys Thr Met Asp Thr
                85                  90                  95

Ser Asp Cys Ala Ile Gln Ser Leu Arg Pro Asp Phe Cys
            100                 105


<210> 42
<211> 109
<212> PRT
<213> Ctenolepisma lineata

<400> 42
Gln Ser Ser Phe Leu Pro Pro Cys Glu Pro Val Asn Glu Thr Val Ala
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Val Glu Lys Glu Gly Cys Pro Lys Cys Leu Val Phe Gln Thr Thr Ile
            20                  25                  30

Cys Ser Gly His Cys Leu Thr Lys Glu Pro Val Tyr Lys Ser Pro Phe
        35                  40                  45

Ser Thr Val Tyr Gln His Val Cys Thr Tyr Arg Asp Val Arg Tyr Glu
     50                  55                  60

Thr Val Arg Leu Pro Asp Cys Pro Pro Gly Val Asp Pro His Ile Thr
 65                  70                  75                  80

Tyr Pro Val Ala Leu Ser Cys Asp Cys Ser Leu Cys Thr Met Asp Thr
                85                  90                  95

Ser Asp Cys Thr Ile Glu Ser Leu Gln Pro Asp Phe Cys
            100                 105


<210> 43
<211> 109
<212> PRT
<213> Fundulus heteroclitus

<400> 43
Ala Ala Phe Gln Leu Pro Arg Cys Gln Leu Leu Asn Gln Thr Ile Ser
  1               5                  10                  15

Leu Glu Lys Arg Gly Cys Ser Gly Cys His Arg Val Glu Thr Thr Ile
            20                  25                  30

Cys Ser Gly Tyr Cys Ala Thr Lys Asp Pro Asn Tyr Lys Thr Ser Tyr
        35                  40                  45

Asn Lys Ala Ile Gln His Val Cys Thr Tyr Gly Asp Leu Tyr Tyr Lys
     50                  55                  60

Thr Phe Glu Phe Pro Glu Cys Val Pro Gly Val Asp Pro Val Val Thr
 65                  70                  75                  80
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Tyr Pro Val Ala Leu Ser Cys Arg Cys Gly Gly Cys Ala Met Ala Thr
                 85                  90                  95

Ser Asp Cys Thr Phe Glu Ser Leu Gln Pro Asp Phe Cys
            100                 105


<210> 44
<211> 105
<212> PRT
<213> Rana catesbeiana

<400> 44
Arg His Val Cys His Leu Ala Asn Ala Thr Ile Ser Ala Glu Lys Asp
  1               5                  10                  15

His Cys Pro Val Cys Ile Thr Phe Thr Thr Ser Ile Cys Thr Gly Tyr
            20                  25                  30

Cys Gln Thr Met Asp Pro Val Tyr Lys Thr Ala Leu Ser Ser Phe Lys
        35                  40                  45

Gln Asn Ile Cys Thr Tyr Lys Glu Ile Arg Tyr Asp Thr Ile Lys Leu
    50                  55                  60

Pro Asp Cys Leu Pro Gly Thr Asp Pro Phe Phe Thr Tyr Pro Val Ala
65                  70                  75                  80

Leu Ser Cys Tyr Cys Asp Leu Cys Lys Met Asp Tyr Ser Asp Cys Thr
                85                  90                  95

Val Glu Ser Ser Glu Pro Asp Val Cys
            100                 105


<210> 45
<211> 111
<212> PRT
<213> Anguilla anguilla

<400> 45
Ala Gly Gln Val Leu Ser Ile Cys Ser Pro Val Asp Tyr Thr Leu Tyr
  1               5                  10                  15

Val Glu Lys Pro Glu Cys Asp Phe Cys Val Ala Ile Asn Thr Thr Ile
            20                  25                  30

Cys Met Gly Phe Cys Tyr Ser Leu Asp Pro Asn Val Val Gly Pro Ala
        35                  40                  45

Val Lys Arg Leu Val Val Gln Arg Gly Cys Thr Tyr Gln Ala Val Glu
    50                  55                  60

Tyr Arg Thr Ala Glu Leu Pro Gly Cys Pro Pro His Val Asp Pro Arg
65                  70                  75                  80

Phe Ser Tyr Pro Val Ala Leu His Cys Thr Cys Arg Ala Cys Asp Pro
                85                  90                  95

Ala Arg Asp Glu Cys Thr His Arg Ala Ser Ala Asp Gly Asp Arg
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<210> 46
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 46
tcgatgatgg gcttcaatat agg 23

<210> 47
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Probe Sequence

<400> 47
cctgggagaa acccattctg gaaccc 26

<210> 48
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 48
gcctcagatg gtctcacact cc 22

<210> 49
<211> 29
<212> DNA
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<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 49
ctcgaggcct ccagtgggaa cctgcgcac 29

<210> 50
<211> 31
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 50
gggcccggat cctcagatgg tctcacactc c 31

<210> 51
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 51
gctagcatga agctggcatt cctc 24

<210> 52
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 52
tatcgatggt ctcacactcc gtg 23

<210> 53
<211> 48
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Oligonucleotide

<400> 53
ctagtctcga ggctgcagtt gctgactaca aagacgatga cgacaagg 48

<210> 54
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Oligonucleotide

<400> 54
ccttgtcgtc atcgtctttg tagtcagcaa ctgcagcctc gaga 44

<210> 55
<211> 27

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 55
tttgctagca ccatgtctgc acttctg 27

<210> 56
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 56
tttggatcct cagatggtct cacactc 27

<210> 57
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 57
aggaggcagt catcccagg 19

<210> 58
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 58
tgccttggcg gtcacttc 18

<210> 59
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Probe Sequence

<400> 59
tgccacttgc acccccttcaa tgtg 24

<210> 60
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 60
aggcagccgt cccaatc 17

<210> 61
<211> 22
<212> DNA
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<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 61
gatcacttcg cactgtcacg tt 22

<210> 62
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Probe Sequence

<400> 62
caggctgcca cttgcacccc tt 22

<210> 63
<211> 31
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 63
ttttaagctt agtgatgcct atggcgtccc c 31

<210> 64
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer

Sequence

<400> 64
ttttgaattc gtagcgagag aggcg 25

<210> 65
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<212> DNA
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<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 65
tttgagatct tcacggccag gg 22

<210> 66
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Oligonucleotide

<400> 66
ctagaggaat tcgggcc 17

<210> 67
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<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Oligonucleotide

<400> 67
cgaattcct 9

<210> 68
<211> 31
<212> DNA
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<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 68
ttttctagaa caggaggcag tcatcccagg c 31

<210> 69
<211> 28
<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 69
ttttgaattc ctagtagcga gagaggcg 28

<210> 70
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 70
agttgctgac tacaaagacg atgacgacaa gcaggaggca gtcatcccag gc 52

<210> 71
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<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 71
cccgtttaaa cggatcctca gtagcgagag aggcgacaca tg 42

<210> 72
<211> 74
<212> DNA
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<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 72
tttgctagcc accatgtctg cacttctgat cctagctctt gttggagctg cagttgctga 60
ctacaaagac gatg 74

<210> 73
<211> 42
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 73
cccgtttaaa cggatcctca gtagcgagag aggcgacaca tg 42

<210> 74
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 74
ggtaccaagg tagccttgca gaagtt 26

<210> 75
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 75
cagctggtaa ttgaactggg agtgga 26

<210> 76
<211> 18
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 76
gggccttcgg atcaccac 18

<210> 77
<211> 22
<212> DNA
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<220>
<223> Description of Artificial Sequence: PCR Primer Sequence

<400> 77
cagcatgaag ctggcattcc tc 22

<210> 78
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<212> DNA
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<400> 78
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gccttcacca aaataatttc tccagctcac atacctgcaa attaattttt ctttgccttg 5340
agtcttggaa cataatttgt gtatcacaat cctcccccaa tttggactta taatatgcta 5400
atgatttaaa cacatgggat gtaattagga tatggggctg gaaagtcttt aaattctcat 5460
gttctattta acctctgatc tccaaccgga tttatgatta aagggctaga aatgaacaaa 5520
acccatgtac tagtcttcct taccccagag gaattccagc tgcaagcttc tttagggaaa 5580
atgctccctt ccccttttaa ctgagcaatt atctacacaa gaaataagac tgctcagata 5640
tacaaagaga gtagcttcaa tgaaaagatg tttggatttg gataattctt ttccctagca 5700
aaattcgcta gctcccttaa gagtcttaat aaagaggcta cgttgggatt aaaagaaaaa 5760
aaaacagaaa taaaatatgt aactaatagc tatctcattt agccttaaaa acttattaaa 5820
ctaaactcat gttttagagt atgatgttct cccaaagcta tggcaaaatg gccaatcaca 5880
agtattcttc cccatttatc atattttcaa tttaagttgt aacttactaa actcagaaat 5940
tttatatgcg tttaggggta aaactgcatg gctggctcag aggaaaaagc ctgtgatttt 6000
ctagctcctg cctctctaaa atcttacagt agctaattct gtggctggaa aaaacctcca 6060
aaactctaat gttatgcaaa tgtctttaat tctggcattt ttggggttga atttaacctt 6120
gttccttttt cataatgtgc caagaaaacc tatattaatg ccaataaagc atgtcctctg 6180
tcttttggat tcatgacaac attcaagaaa gtctttttaa ttcttagtat acttggagta 6240

<210> 79
<211> 1224
<212> DNA
<213> Homo sapiens

<400> 79
agatggcgaa gaaaattcca gggaagggag aatcactgca cagagggctg acacacaggt 60
cctttccaga gacagctgct cacactcaca cccatacaca cacacacaca cacacaaagg 120
cagatacagg gaaaaggcag caccattcag gcacacctca cctgtcagac cagccagccc 180
tggctcactc acctggaatg cagtatttaa agaactcgcc atcccacctg cacacccacg 240
tagagacatc tccccactgt gtttcagatg cctatggcgt cccctcaaac cctggtcctc 300
tatctgctgg tcctggcagt cactgaagcc tggggccagg aggcagtcat cccaggctgc 360
cacttgcacc gtgagtacct ctgggaccgg agggctagga gcagtggagg ttctgggtgg 420
gagcaaagag ctgacagagt ggacggtggg gcaggcagca ccctaaaggg ccccacactg 480
aggcacaggc aacgggagct ggggcgaggc aaaccttggc agaggcgccg tctactgctt 540
gcctatctcc ttctagcctt caatgtgaca gtgcgaagtg accgccaagg cacctgccag 600
ggctcccacg tggcacaggc ctgtgtgggc cactgtgagt ccagcgcctt cccttctcgg 660

tactctgtgc tggtggccag tggttaccga cacaacatca cctccgtctc tcagtgctgc 720
accatcagtg gcctgaagaa ggtgaggagg gcccgggccc ggtggatgga cgctggggtc 780
gcgggaagac cagagagatg gagatcctag acagccctga gaaaggggac tgcagcacgg 840
actcccctct cccgcaggtc aaagtacagc tgcagtgtgt ggggagccgg agggaggagc 900
tcgagatctt cacggccagg gcctgccagt gtgacatgtg tcgcctctct cgctactagc 960
ccatcctctc ccctccttcc tcccctgggt cacagggctt gacattctgg tgggggaaac 1020
ctgtgttcaa gattcaaaaa ctggaaggag ctccagccct gatggttact tgctatggaa 1080
ttttttaaa taaggggagg gttgttccag ctttgatcct ttgtaagatt ttgtgactgt 1140
cacctgagaa gaggggagtt tctgcttctt ccctgcctct gcctggccct tctaaaccaa 1200
tctttcatca ttttacttcc ctct 1224

<210> 80
<211> 490
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 80
cactttgcct ttctctccac aggtgtccac tcccagttca attaccagct gctagcgtcg 60
accatgtctg cacttctgat cctagctctt gttggagctg cagttgctca tcatcaccat 120
caccatggtg acgatgacga taagcaggag gcagtcatcc caggctgcca cttgcacccc 180
ttcaatgtga cagtgcgaag tgaccgccaa ggcacctgcc agggctccca cgtggcacag 240
gcctgtgtgg gccactgtga gtccagcgcc ttcccttctc ggtactctgt gctggtggcc 300
agtggttacc gacacaacat cacctccgtc tctcagtgct gcaccatcag tggcctgaag 360
aaggtcaaag tacagctgca gtgtgtgggg agccggaggg aggagctcga gatcttcacg 420
gccagggcct gccagtgtga catgtgtcgc ctctctcgct actagtcgac ggatccagac 480
atgataagat 490

<210> 81
<211> 130
<212> PRT
<213> Homo sapiens

<400> 81
Met Lys Leu Ala Phe Leu Phe Leu Gly Pro Met Ala Leu Leu Leu Leu
1 5 10 15

Ala Gly Tyr Gly Cys Val Leu Gly Ala Ser Ser Gly Asn Leu Arg Thr
20 25 30

Phe Val Gly Cys Ala Val Arg Glu Phe Thr Phe Leu Ala Lys Lys Pro
35 40 45

Gly Cys Arg Gly Leu Arg Ile Thr Thr Asp Ala Cys Trp Gly Arg Cys
50 55 60

Glu Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala His
65 70 75 80

His Arg Val Cys Thr Tyr Asn Glu Thr Lys Gln Val Thr Val Lys Leu
85 90 95

Pro Asn Cys Ala Pro Gly Val Asp Pro Phe Tyr Thr Tyr Pro Val Ala
100 105 110

Ile Arg Cys Asp Cys Gly Ala Cys Ser Thr Ala Thr Thr Glu Cys Glu
115 120 125

Thr Ile
130

<210> 82
<211> 420
<212> DNA
<213> Homo sapiens

<400> 82
cgaattcgcc cttcagcatg aagctggcat tcctcttcct tggccccatg gccctcctcc 60
ttctggctgg ctatggctgt gtcctcggtg cctccagtgg gaacctgcgc acctttgtgg 120
gctgtgccgt gagggagttt actttcctgg ccaagaagcc aggctgcagg ggccttcgga 180
tcaccacgga tgcctgctgg ggtcgctgtg agacctggga gaaacccatt ctggaacccc 240
cctatattga agcccatcat cgagtctgta cctacaacga gaccaaacag gtgactgtca 300
agctgcccaa ctgtgccccg ggagtcgacc ccttctacac ctatcccgtg gccatccgct 360
gtgactgcgg agcctgctcc actgccacca cggagtgtga gaccatctga ggcaagggcg 420

<210> 83
<211> 106
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 83
Ala Ser Ser Gly Asn Leu Arg Thr Phe Val Gly Cys Ala Val Arg Glu
1 5 10 15

Phe Thr Phe Leu Ala Lys Lys Pro Gly Cys Arg Gly Leu Arg Ile Thr
20 25 30

Thr Asp Ala Cys Trp Gly Arg Cys Glu Thr Trp Glu Lys Pro Ile Leu
35 40 45

Glu Pro Pro Tyr Ile Glu Ala His His Arg Val Cys Thr Tyr Asn Glu
50 55 60

Thr Lys Gln Val Thr Val Lys Leu Pro Asn Cys Ala Pro Gly Val Asp
65 70 75 80

Pro Phe Tyr Thr Tyr Pro Val Ala Ile Arg Cys Asp Cys Gly Ala Cys
85 90 95

Ser Thr Ala Thr Thr Glu Cys Glu Thr Ile
100 105

<210> 84
<211> 420
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 84
ggactagtcc tgcaggttta aacgaattcg cccttctcga ggcctccagt gggaacctgc 60

gcacctttgt gggctgtgcc gtgagggagt ttactttcct ggccaagaag ccaggctgca 120
ggggccttcg gatcaccacg gatgcctgct ggggtcgctg tgagacctgg gagaaaccca 180
ttctggaacc cccctatatt gaagcccatc atcgagtctg tacctacaac gagaccaaac 240
aggtgactgt caagctgccc aactgtgccc cgggagtcga ccccttctac acctatcccg 300
tggccatccg ctgtgactgc ggagcctgct ccactgccac cacggagtgt gagaccatct 360
gaggatccgg gcccaagggc gaattcgcgg ccgctaaatt caattcgccc tatagtgagt 420

<210> 85
<211> 131
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 85
Leu Glu Pro Tyr Thr Ala Cys Asp Leu Ala Pro Pro Ala Gly Thr Thr
1 5 10 15

Asp Ala Ala His Pro Gly Tyr Leu Glu Ala Ser Ser Gly Asn Leu Arg
20 25 30

Thr Phe Val Gly Cys Ala Val Arg Glu Phe Thr Phe Leu Ala Lys Lys
35 40 45

Pro Gly Cys Arg Gly Leu Arg Ile Thr Thr Asp Ala Cys Trp Gly Arg
50 55 60

Cys Glu Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala
65 70 75 80

His His Arg Val Cys Thr Tyr Asn Glu Thr Lys Gln Val Thr Val Lys
85 90 95

Leu Pro Asn Cys Ala Pro Gly Val Asp Pro Phe Tyr Thr Tyr Pro Val
100 105 110

Ala Ile Arg Cys Asp Cys Gly Ala Cys Ser Thr Ala Thr Thr Glu Cys
115 120 125

Glu Thr Ile
130

<210> 86
<211> 420
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 86
cctggagccc tacaccgcct gcgacctggc gccccccgcc ggcaccaccg acgccgcgca 60
cccgggttat ctcgaggcct ccagtgggaa cctgcgcacc tttgtgggct gtgccgtgag 120
ggagtttact ttcctggcca agaagccagg ctgcaggggc cttcggatca ccacggatgc 180
ctgctggggt cgctgtgaga cctgggagaa acccattctg gaacccccct atattgaagc 240
ccatcatcga gtctgtacct acaacgagac caaacaggtg actgtcaagc tgcccaactg 300
tgccccggga gtcgacccct tctacaccta tcccgtggcc atccgctgtg actgcggagc 360
ctgctccact gccaccacgg agtgtgagac catctgagga tccgggcccg aacaaaaact 420

<210> 87
<211> 387
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 87

```
Met Lys Leu Ala Phe Leu Phe Leu Gly Pro Met Ala Leu Leu Leu Leu
  1               5                  10                  15

Ala Gly Tyr Gly Cys Val Leu Gly Ala Ser Ser Gly Asn Leu Arg Thr
            20                  25                  30

Phe Val Gly Cys Ala Val Arg Glu Phe Thr Phe Leu Ala Lys Lys Pro
        35                  40                  45

Gly Cys Arg Gly Leu Arg Ile Thr Thr Asp Ala Cys Trp Gly Arg Cys
    50                  55                  60

Glu Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala His
65                  70                  75                  80

His Arg Val Cys Thr Tyr Asn Glu Thr Lys Gln Val Thr Val Lys Leu
                85                  90                  95

Pro Asn Cys Ala Pro Gly Val Asp Pro Phe Tyr Thr Tyr Pro Val Ala
            100                 105                 110

Ile Arg Cys Asp Cys Gly Ala Cys Ser Thr Ala Thr Thr Glu Cys Glu
        115                 120                 125

Thr Ile Asp Lys Gly Gln Phe Cys Arg Tyr Pro Ala Gln Trp Arg Pro
    130                 135                 140

Leu Glu Ser Arg Met Ala Ser Lys Gly Glu Glu Leu Phe Thr Gly Val
145                 150                 155                 160

Val Pro Ile Leu Val Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe
                165                 170                 175

Ser Val Ser Gly Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr
            180                 185                 190

Leu Lys Phe Ile Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr
        195                 200                 205

Leu Val Thr Thr Phe Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro
    210                 215                 220

Asp His Met Lys Arg His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly
225                 230                 235                 240

Tyr Val Gln Glu Arg Thr Ile Ser Phe Lys Asp Asp Gly Asn Tyr Lys
                245                 250                 255

Thr Arg Ala Glu Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile
            260                 265                 270
```

```
Glu Leu Lys Gly Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His
        275                 280                 285

Lys Leu Glu Tyr Asn Tyr Asn Ser His Asn Val Tyr Ile Thr Ala Asp
    290                 295                 300

Lys Gln Lys Asn Gly Ile Lys Ala Asn Phe Lys Ile Arg His Asn Ile
305                 310                 315                 320

Glu Asp Gly Ser Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro
                325                 330                 335

Ile Gly Asp Gly Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr
            340                 345                 350

Gln Ser Ala Leu Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Val
        355                 360                 365

Leu Leu Glu Phe Val Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu
    370                 375                 380

Leu Tyr Lys
385
```

<210> 88
<211> 1210
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 88

```
gcatgaagct ggcattcctc ttccttggcc ccatggccct cctccttctg gctggctatg 60
gctgtgtcct cggtgcctcc agtgggaacc tgcgcacctt tgtgggctgt gccgtgaggg 120
agtttacttt cctggccaag aagccaggct gcaggggcct tcggatcacc acggatgcct 180
gctggggtcg ctgtgagacc tgggagaaac ccattctgga acccccctat attgaagccc 240
atcatcgagt ctgtacctac aacgagacca aacaggtgac tgtcaagctg cccaactgtg 300
ccccgggagt cgacccccttc tacacctatc ccgtggccat ccgctgtgac tgcggagcct 360
gctccactgc caccacggag tgtgagacca tcgataaagg gcaattctgc agatatccag 420
cacagtggcg gccgctcgag tctagaatgg ctagcaaagg agaagaactt ttcactggag 480
ttgtcccaat tcttgttgaa ttagatggtg atgttaatgg gcacaaattt tctgtcagtg 540
gagagggtga aggtgatgct acatacggaa agcttaccct taaatttatt tgcactactg 600
gaaaactacc tgttccatgg ccaacacttg tcactacttt ctcttatggt gttcaatgct 660
tttcccgtta tccggatcat atgaaacggc atgacttttt caagagtgcc atgcccgaag 720
gttatgtaca ggaacgcact atatctttca aagatgacgg gaactacaag acgcgtgctg 780
aagtcaagtt tgaaggtgat acccttgtta atcgtatcga gttaaaaggt attgatttta 840
aagaagatgg aaacattctc ggacacaaac tcgagtacaa ctataactca cacaatgtat 900
acatcacggc agacaaacaa aagaatggaa tcaaagctaa cttcaaaatt cgccacaaca 960
ttgaagatgg atccgttcaa ctagcagacc attatcaaca aaatactcca attggcgatg 1020
gccctgtcct tttaccagac aaccattacc tgtcgacaca atctgcccttt tcgaaagatc 1080
ccaacgaaaa gcgtgaccac atggtccttc ttgagtttgt aactgctgct gggattacac 1140
atggcatgga tgagctctac aaataatgaa ttaaacccgc tgatcagcct cgactgtgcc 1200
ttctagttgc                                                       1210
```

<210> 89
<211> 129
<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 89
Met Ser Ala Leu Leu Ile Leu Ala Leu Val Gly Ala Ala Val Ala Asp
1 5 10 15

Tyr Lys Asp Asp Asp Asp Lys Ala Ser Ser Gly Asn Leu Arg Thr Phe
20 25 30

Val Gly Cys Ala Val Arg Glu Phe Thr Phe Leu Ala Lys Lys Pro Gly
35 40 45

Cys Arg Gly Leu Arg Ile Thr Thr Asp Ala Cys Trp Gly Arg Cys Glu
50 55 60

Thr Trp Glu Lys Pro Ile Leu Glu Pro Pro Tyr Ile Glu Ala His His
65 70 75 80

Arg Val Cys Thr Tyr Asn Glu Thr Lys Gln Val Thr Val Lys Leu Pro
85 90 95

Asn Cys Ala Pro Gly Val Asp Pro Phe Tyr Thr Tyr Pro Val Ala Ile
100 105 110

Arg Cys Asp Cys Gly Ala Cys Ser Thr Ala Thr Thr Glu Cys Glu Thr
115 120 125

Ile

<210> 90
<211> 490
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 90
ccgttgacgc aaatgggcgg taggcgtgta cggtgggagg tctatataag cagagctcgt 60
ttagtgaacc gtcagaatta attcaccatg tctgcacttc tgatcctagc tcttgttgga 120
gctgcagttg ctgactacaa agacgatgac gacaaggcct ccagtgggaa cctgcgcacc 180
tttgtgggct gtgccgtgag ggagtttact ttcctggcca agaagccagg ctgcaggggc 240
cttcggatca ccacggatgc ctgctggggt cgctgtgaga cctgggagaa acccattctg 300
gaaccccccct atattgaagc ccatcatcga gtctgtacct acaacgagac caaacaggtg 360
actgtcaagc tgcccaactg tgccccggga gtcgaccccct tctacaccta tcccgtggcc 420
atccgctgtg actgcggagc ctgctccact gccaccacgg agtgtgagac catctgagga 480
tcccgggtgg 490

<210> 91
<211> 129
<212> PRT
<213> Homo sapiens

<400> 91
Met Pro Met Ala Ser Pro Gln Thr Leu Val Leu Tyr Leu Leu Val Leu

```
  1               5                  10                  15

Ala Val Thr Glu Ala Trp Gly Gln Glu Ala Val Ile Pro Gly Cys His
             20                  25                  30

Leu His Pro Phe Asn Val Thr Val Arg Ser Asp Arg Gln Gly Thr Cys
         35                  40                  45

Gln Gly Ser His Val Ala Gln Ala Cys Val Gly His Cys Glu Ser Ser
     50                  55                  60

Ala Phe Pro Ser Arg Tyr Ser Val Leu Val Ala Ser Gly Tyr Arg His
 65                  70                  75                  80

Asn Ile Thr Ser Val Ser Gln Cys Cys Thr Ile Ser Gly Leu Lys Lys
                 85                  90                  95

Val Lys Val Gln Leu Gln Cys Val Gly Ser Arg Arg Glu Glu Leu Glu
            100                 105                 110

Ile Leu Thr Ala Arg Ala Cys Gln Cys Asp Met Cys Arg Leu Ser Arg
        115                 120                 125

Tyr
```

<210> 92
<211> 490
<212> DNA
<213> Homo sapiens

<400> 92

```
ggcgaattgg gtaccgggcc ccccctcgag gtcgacggta tcgataagct tagtgatgcc 60
tatggcgtcc cctcaaaccc tggtcctcta tctgctggtc ctggcagtca ctgaagcctg 120
gggccaggag gcagtcatcc caggctgcca cttgcacccc ttcaatgtga cagtgcgaag 180
tgaccgccaa ggcacctgcc agggctccca cgtggcacag gcctgtgtgg gccactgtga 240
gtccagcgcc ttcccttctc ggtactctgt gctggtggcc agtggttacc gacacaacat 300
cacctccgtc tctcagtgct gcaccatcag tggcctgaag aaggtcaaag tacagctgca 360
gtgtgtgggg agccggaggg aggagctcga gatcttaacg gccagggcct gccagtgtga 420
catgtgtcgc ctctctcgct acgaattcct gcagcccggg ggatccacta gttctagagc 480
ggccgccacc                                                      490
```

<210> 93
<211> 129
<212> PRT
<213> Homo sapiens

<400> 93

```
Met Pro Met Ala Ser Pro Gln Thr Leu Val Leu Tyr Leu Leu Val Leu
  1               5                  10                  15

Ala Val Thr Glu Ala Trp Gly Gln Glu Ala Val Ile Pro Gly Cys His
             20                  25                  30

Leu His Pro Phe Asn Val Thr Val Arg Ser Asp Arg Gln Gly Thr Cys
         35                  40                  45

Gln Gly Ser His Val Ala Gln Ala Cys Val Gly His Cys Glu Ser Ser
     50                  55                  60
```

```
Ala Phe Pro Ser Arg Tyr Ser Val Leu Val Ala Ser Gly Tyr Arg His
 65                  70                  75                  80

Asn Ile Thr Ser Val Ser Gln Cys Cys Thr Ile Ser Gly Leu Lys Lys
                85                  90                  95

Val Lys Val Gln Leu Gln Cys Val Gly Ser Arg Arg Glu Glu Leu Glu
            100                 105                 110

Ile Leu Thr Ala Arg Ala Cys Gln Cys Asp Met Cys Arg Leu Ser Arg
        115                 120                 125

Tyr
```

<210> 94
<211> 390
<212> DNA
<213> Homo sapiens

<400> 94
atgcctatgg cgtcccctca aaccctggtc ctctatctgc tggtcctggc agtcactgaa 60
gcctggggcc aggaggcagt catcccaggc tgccacttgc acccccttcaa tgtgacagtg 120
cgaagtgacc gccaaggcac ctgccagggc tcccacgtgg cacaggcctg tgtgggccac 180
tgtgagtcca gcgccttccc ttctcggtac tctgtgctgg tggccagtgg ttaccgacac 240
aacatcacct ccgtctctca gtgctgcacc atcagtggcc tgaagaaggt caaagtacag 300
ctgcagtgtg tggggagccg gagggaggag ctcgagatct taacggccag ggcctgccag 360
tgtgacatgt gtcgcctctc tcgctactag 390

<210> 95
<211> 129
<212> PRT
<213> Homo sapiens

<400> 95
```
Met Pro Met Ala Ser Pro Gln Thr Leu Val Leu Tyr Leu Leu Val Leu
  1               5                  10                  15

Ala Val Thr Glu Ala Trp Gly Gln Glu Ala Val Ile Pro Gly Cys His
             20                  25                  30

Leu His Pro Phe Asn Val Thr Val Arg Ser Asp Arg Gln Gly Thr Cys
         35                  40                  45

Gln Gly Ser His Val Ala Gln Ala Cys Val Gly His Cys Glu Ser Ser
     50                  55                  60

Ala Phe Pro Ser Arg Tyr Ser Val Leu Val Ala Ser Gly Tyr Arg His
 65                  70                  75                  80

Asn Ile Thr Ser Val Ser Gln Cys Cys Thr Ile Ser Gly Leu Lys Lys
                85                  90                  95

Val Lys Val Gln Leu Gln Cys Val Gly Ser Arg Arg Glu Glu Leu Glu
            100                 105                 110

Ile Phe Thr Ala Arg Ala Cys Gln Cys Asp Met Cys Arg Leu Ser Arg
        115                 120                 125
```

Tyr

<210> 96
<211> 490
<212> DNA
<213> Homo sapiens

<400> 96
ggcgaattgg gtaccgggcc ccccctcgag gtcgacggta tcgataagct tagtgatgcc 60
tatggcgtcc cctcaaaccc tggtcctcta tctgctggtc ctggcagtca ctgaagcctg 120
gggccaggag gcagtcatcc caggctgcca cttgcacccc ttcaatgtga cagtgcgaag 180
tgaccgccaa ggcacctgcc agggctccca cgtggcacag gcctgtgtgg gccactgtga 240
gtccagcgcc ttcccttctc ggtactctgt gctggtggcc agtggttacc gacacaacat 300
cacctccgtc tctcagtgct gcaccatcag tggcctgaag aaggtcaaag tacagctgca 360
gtgtgtgggg agccggaggg aggagctcga gatcttcacg gccagggcct gccagtgtga 420
catgtgtcgc ctctctcgct acgaattcct gcagcccggg ggatccacta gttctagagc 480
ggccgccacc 490

<210> 97
<211> 386
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 97
Met Pro Met Ala Ser Pro Gln Thr Leu Val Leu Tyr Leu Leu Val Leu
1 5 10 15

Ala Val Thr Glu Ala Trp Gly Gln Glu Ala Val Ile Pro Gly Cys His
20 25 30

Leu His Pro Phe Asn Val Thr Val Arg Ser Asp Arg Gln Gly Thr Cys
35 40 45

Gln Gly Ser His Val Ala Gln Ala Cys Val Gly His Cys Glu Ser Ser
50 55 60

Ala Phe Pro Ser Arg Tyr Ser Val Leu Val Ala Ser Gly Tyr Arg His
65 70 75 80

Asn Ile Thr Ser Val Ser Gln Cys Cys Thr Ile Ser Gly Leu Lys Lys
85 90 95

Val Lys Val Gln Leu Gln Cys Val Gly Ser Arg Arg Glu Glu Leu Glu
100 105 110

Ile Leu Thr Ala Arg Ala Cys Gln Cys Asp Met Cys Arg Leu Ser Arg
115 120 125

Tyr Glu Phe Cys Ser Arg Arg Tyr Arg Gly Pro Gly Ile His Arg Pro
130 135 140

Val Ala Thr Met Val Ser Lys Gly Glu Glu Leu Phe Thr Gly Val Val
145 150 155 160

```
Pro Ile Leu Val Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser
                165                 170                 175

Val Ser Gly Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu
            180                 185                 190

Lys Phe Ile Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu
        195                 200                 205

Val Thr Thr Leu Thr Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp
    210                 215                 220

His Met Lys Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr
225                 230                 235                 240

Val Gln Glu Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr
                245                 250                 255

Arg Ala Glu Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu
            260                 265                 270

Leu Lys Gly Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys
        275                 280                 285

Leu Glu Tyr Asn Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys
    290                 295                 300

Gln Lys Asn Gly Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu
305                 310                 315                 320

Asp Gly Ser Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile
                325                 330                 335

Gly Asp Gly Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln
            340                 345                 350

Ser Ala Leu Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu
        355                 360                 365

Leu Glu Phe Val Thr Ala Ala Gly Ile Thr Leu Gly Met Asp Glu Leu
    370                 375                 380

Tyr Lys
385
```

<210> 98
<211> 1190
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 98
agcttagtga tgcctatggc gtcccctcaa accctggtcc tctatctgct ggtcctggca 60
gtcactgaag cctggggcca ggaggcagtc atcccaggct gccacttgca ccccttcaat 120
gtgacagtgc gaagtgaccg ccaaggcacc tgccagggct cccacgtggc acaggcctgt 180
gtgggccact gtgagtccag cgccttccct tctcggtact ctgtgctggt ggccagtggt 240
taccgacaca acatcacctc cgtctctcag tgctgcacca tcagtggcct gaagaaggtc 300
aaagtacagc tgcagtgtgt ggggagccgg agggaggagc tcgagatctt aacggccagg 360

```
gcctgccagt gtgacatgtg tcgcctctct cgctacgaat tctgcagtcg acggtaccgc 420
gggcccggga tccaccggcc ggtcgccacc atggtgagca agggcgagga gctgttcacc 480
ggggtggtgc ccatcctggt cgagctggac ggcgacgtaa acggccacaa gttcagcgtg 540
tccggcgagg gcgagggcga tgccacctac ggcaagctga ccctgaagtt catctgcacc 600
accggcaagc tgcccgtgcc ctggcccacc ctcgtgacca ccctgaccta cggcgtgcag 660
tgcttcagcc gctaccccga ccacatgaag cagcacgact tcttcaagtc cgccatgccc 720
gaaggctacg tccaggagcg caccatcttc ttcaaggacg acggcaacta caagacccgc 780
gccgaggtga agttcgaggg cgacaccctg gtgaaccgca tcgagctgaa gggcatcgac 840
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gtctatatca tggccgacaa gcagaagaac ggcatcaagg tgaacttcaa gatccgccac 960
aacatcgagg acggcagcgt gcagctcgcc gaccactacc agcagaacac ccccatcggc 1020
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gaccccaacg agaagcgcga tcacatggtc ctgctggagt tcgtgaccgc cgccgggatc 1140
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<210> 99
<211> 165
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 99

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Ala Ala Cys Leu Glu Pro Tyr Thr Ala Cys Asp Leu Ala Pro Pro Ala
  1               5                  10                  15

Gly Thr Thr Asp Ala Ala His Pro Gly Tyr Leu Glu Glu Ala Leu Ser
            20                  25                  30

Leu Glu Gln Glu Ala Val Ile Pro Gly Cys His Leu His Pro Phe Asn
        35                  40                  45

Val Thr Val Arg Ser Asp Arg Gln Gly Thr Cys Gln Gly Ser His Val
    50                  55                  60

Ala Gln Ala Cys Val Gly His Cys Glu Ser Ser Ala Phe Pro Ser Arg
65                  70                  75                  80

Tyr Ser Val Leu Val Ala Ser Gly Tyr Arg His Asn Ile Thr Ser Val
                85                  90                  95

Ser Gln Cys Cys Thr Ile Ser Gly Leu Lys Lys Val Lys Val Gln Leu
            100                 105                 110

Gln Cys Val Gly Ser Arg Arg Glu Glu Leu Glu Ile Phe Thr Ala Arg
        115                 120                 125

Ala Cys Gln Cys Asp Met Cys Arg Leu Ser Arg Tyr Glu Phe Gly Pro
    130                 135                 140

Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn Ser Ala Val Asp His
145                 150                 155                 160

His His His His His
                165
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<210> 100
<211> 560

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 100
gccgcctgcc tggagcccta caccgcctgc gacctggcgc cccccgccgg caccaccgac 60
gccgcgcacc cgggttatct cgaggaagcg ctctctctag aacaggaggc agtcatccca 120
ggctgccact tgcacccctt caatgtgaca gtgcgaagtg accgccaagg cacctgccag 180
ggctcccacg tggcacaggc ctgtgtgggc cactgtgagt ccagcgcctt cccttctcgg 240
tactctgtgc tggtggccag tggttaccga cacaacatca cctccgtctc tcagtgctgc 300
accatcagtg gcctgaagaa ggtcaaagta cagctgcagt gtgtggggag ccggagggag 360
gagctcgaga tcttcacggc cagggcctgc cagtgtgaca tgtgtcgcct ctctcgctac 420
gaattcgggc ccgaacaaaa actcatctca gaagaggatc tgaatagcgc cgtcgaccat 480
catcatcatc atcattgagt ttaaacccgc tgatcagcct cgactgtgcc ttctagttgc 540
cagccatctg ttgtttgccc 560

<210> 101
<211> 129
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 101
Met Ser Ala Leu Leu Ile Leu Ala Leu Val Gly Ala Ala Val Ala Asp
1 5 10 15

Tyr Lys Asp Asp Asp Asp Lys Gln Glu Ala Val Ile Pro Gly Cys His
20 25 30

Leu His Pro Phe Asn Val Thr Val Arg Ser Asp Arg Gln Gly Thr Cys
35 40 45

Gln Gly Ser His Val Ala Gln Ala Cys Val Gly His Cys Glu Ser Ser
50 55 60

Ala Phe Pro Ser Arg Tyr Ser Val Leu Val Ala Ser Gly Tyr Arg His
65 70 75 80

Asn Ile Thr Ser Val Ser Gln Cys Cys Thr Ile Ser Gly Leu Lys Lys
85 90 95

Val Lys Val Gln Leu Gln Cys Val Gly Ser Arg Arg Glu Glu Leu Glu
100 105 110

Ile Phe Thr Ala Arg Ala Cys Gln Cys Asp Met Cys Arg Leu Ser Arg
115 120 125

Tyr

<210> 102
<211> 420
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 102
agctgctagc caccatgtct gcacttctga tcctagctct tgttggagct gcagttgctg 60
actacaaaga cgatgacgac aagcaggagg cagtcatccc aggctgccac ttgcacccct 120
tcaatgtgac agtgcgaagt gaccgccaag gcacctgcca gggctcccac gtggcacagg 180
cctgtgtggg ccactgtgag tccagcgcct tcccttctcg gtactctgtg ctggtggcca 240
gtggttaccg acacaacatc acctccgtct ctcagtgctg caccatcagt ggcctgaaga 300
aggtcaaagt acagctgcag tgtgtgggga gccggaggga ggagctcgag atcttcacgg 360
ccagggcctg ccagtgtgac atgtgtcgcc tctctcgcta ctgaggatcc agacatgata 420

<210> 103
<211> 69
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 103
ctcttgttgg agctgcagtt gctcatcatc accatcacca tggtgacgat gacgataagc 60
aggaggcag 69

<210> 104
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 104
tttggatccg tcgactagta gcgagagagg cgacacatg 39

<210> 105
<211> 65
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer
Sequence

<400> 105
tttgctagcg tcgaccatgt ctgcacttct gatcctagct cttgttggag ctgcagttgc 60
tcatc 65

<210> 106
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: PCR Primer

Sequence

<400> 106
tttggatccg tcgactagta gcgagagagg cgacacatg 39

<210> 107
<211> 133
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Fusion Protein

<400> 107
Met Ser Ala Leu Leu Ile Leu Ala Leu Val Gly Ala Ala Val Ala His
1 5 10 15

His His His His His Gly Asp Asp Asp Asp Lys Gln Glu Ala Val Ile
20 25 30

Pro Gly Cys His Leu His Pro Phe Asn Val Thr Val Arg Ser Asp Arg
35 40 45

Gln Gly Thr Cys Gln Gly Ser His Val Ala Gln Ala Cys Val Gly His
50 55 60

Cys Glu Ser Ser Ala Phe Pro Ser Arg Tyr Ser Val Leu Val Ala Ser
65 70 75 80

Gly Tyr Arg His Asn Ile Thr Ser Val Ser Gln Cys Cys Thr Ile Ser
85 90 95

Gly Leu Lys Lys Val Lys Val Gln Leu Gln Cys Val Gly Ser Arg Arg
100 105 110

Glu Glu Leu Glu Ile Phe Thr Ala Arg Ala Cys Gln Cys Asp Met Cys
115 120 125

Arg Leu Ser Arg Tyr
130